REMARKS

I. Status of Claims

Prior to entry of this paper, Claims 1-47 were pending. Claims 1-47 were rejected. In this paper, no claims are amended, no claims are cancelled, and no claims are added. No new matter is added by way of this amendment. For at least the following reasons, it is respectfully submitted that each of the presently pending claims is in condition for allowance.

II. Response to Arguments

The examiner's response to particular arguments in the previously filed amendment, even though they were considered moot in view of the new ground(s) of rejection, are acknowledged and appreciated. In light of this response, the following remarks attempt to further clarify the intended interpretation of both the previous remarks and the distinction between the claimed invention and the prior art of record.

III. Summaries of the Claimed Invention and the Cited References

To provide context for the following response, the following non-exhaustive summaries are provided for the claimed invention and the references cited in rejection of the claims.

To summarize one embodiment of the claimed invention, a method of encoding and storing data securely using an n-dimensional entity is disclosed (page 5, lines 28-29). The n-dimensional entity is generated based on a seed for a random number generator, a number of dimensions of the n-dimensional entity, a length for each dimension of the n-dimensional entity, and bits from a random number generator (Claim 2, page 18, lines 3-26). Changes or movement within the n-dimensional entity are based on a cursor position that resides within the boundaries of the entity (page 11, lines 14-19), directions within the entity (page 14, lines 26-29), and actions pertaining to, but not limited to, movement along a selected plane of the entity, employing another n-dimensional entity, or even flipping the state of a bit in the entity (page 19, lines 13-25). Encoding of plaintext data is performed at the bit level of such data (page 19, lines 7-11). For each bit of plaintext data to be encoded, an iteration of steps is performed (Figure 8, loop based on decision at 804). Each iteration involves the elements of a current cursor position, an action, a direction, and the bit itself

that is currently being encoded. The current cursor position is, as noted above, defined in terms of the dimensions of the n-dimensional entity as being within the boundaries of the n-dimensional entity, wherein a current value may be an input from a user or established during encoding (page 11, lines 14-10; page 15, lines 21-26; page 19, lines 20-25). The action may be indexed from a table of actions, using a sequence of bits read from the n-dimensional entity (page 19, lines 13-25). The direction is determined from a sequence of generated bits, which may be generated as a number sequence (page 19, lines 26-29; page 20, lines 1-2). The bit itself that is currently being encoded is received into the encryption process (Figure 6, page 16, lines 18-22). These elements are collectively employed to determine a bit in the n-dimensional entity that matches the bit at the current cursor position (page 20, lines 4-12). Using the resulting matching bit's location, an offset count value may be determined by counting the number of bits between the current cursor position and the matching bit's location (page 20, lines 23-25). This offset value is then saved and may serve as a basis for decoding the data (page 20, lines 26-28; page 23, lines 6-9). On the whole, this encryption process provides the benefit of being able protect sensitive information, such as the encryption keys for other computer system security arrangements.

Regarding the applied references, McDonough discloses a data sequence generator for spread spectrum communication comprising stored spreading sequences. The disclosure involves storing at least two data sequences in a memory (col. 8, lines 20-24). Generating a second data sequence may involve modifying at least a first data sequence stored in memory (col. 9, lines 41-56). The resulting sequences are utilized in a modulator (1210) to generate the necessary signals for an analog transceiver (1010) (col. 19, lines 35-43).

Zdepski discloses an interactive television system, wherein insert pictures are selectively included in a graphical user interface. Blocks of pixels of an overall image are organized into slices (col. 10, lines 66-67). Inserting an insert picture into an overall image using a map of these slices is further based in offset byte(s), which indicate one or more locations for the insert picture (col. 17, lines 58-65). This offset location data is included in the encoded output that comprises the insert picture (col. 19, lines 7-14).

IV. Remarks regarding Response to Arguments

After carefully reviewing the amended rejection in the most recently issued Office Action, it is respectfully submitted that these new grounds of rejection still do not fully teach or suggest the claimed invention as a whole, for at least the following reasons.

With regards to the response to arguments in the previous office action, it is still respectfully maintained that neither of the references teaches or suggests "selecting a direction within the n-dimensional entity based in part on the generated bit sequence", as is included in at least Claim 1. "[P]roviding a selected PN bit of the PN sequence at an output of said memory based on the data" (as cited in col. 7, lines 1-4 of McDonough) does not teach or suggest this limitation. Selecting "data" or "data of a stored sequence" is not the same as selecting "**a direction**", even given the broadest reasonable interpretation of the claims. Similar for the cited portion for column 10, "Data of a stored data sequence that corresponds to the memory data location" does not teach or suggest this limitation. This data, nor its manner of selection, simply does not teach or suggest a "direction" relative to the N-dimensional entity.

Similarly, McDonough does not teach or suggest "**selecting** a direction ....**based on the generated bit sequence**". Instead, what McDonough teaches is "memory location data is changed in response to the clock signal. Data of a stored data sequence that corresponds to the memory location data is selected. The memory location data is changed in a consistent, sequential, linear fashion (e.g., incrementing or decrementing the memory location data by a predetermined quantity)." See McDonough, Col 10, lines 45-63. As can be seen no direction is selected based on a bit sequence. Instead, McDonough selects data of a stored data sequence based on memory location data. This is not selecting a direction. It is selecting which data to select (step 502 of figure 5) that is provided for use in communication. There is no selecting of a directed based on the generated bit sequence. No form of choice is involved, much less that which would involve "selecting a direction" that is both "within the n-dimensional entity" and "based in part on the generated bit sequence" as claimed.

As claimed in Claim 1, the generated sequence influences or serves as a basis of the "selecting" step, as indicated by the "**based in part on the generated bit sequence**" clause in the limitation. In the cited portions of McDonough, the data of the data sequence is the result or output

of the influencing step (col. 10, lines 56-61). In effect, the roles of the claimed "sequence" and that of the cited "sequence" in McDonough are opposite, relative to the selecting step. Again, the claimed "sequence" serves as a basis for the "selecting", but the "data of the data sequence" as taught in McDonough is a result of being "selected". This difference clearly further indicates the distinction, and this patentability of the claimed invention, as is claimed in Claim 1.

With regard to the second part of the response, it is still respectfully submitted that McDonough does not suggest "determining an offset between a cursor position and a match bit within the n-dimensional entity, wherein the match bit is based in part on the action, the direction, and the each bit in the data string". This limitation is not taught or suggested by McDonough in view of Zdepski as a whole. Interpreting this limitation "as a whole", as prescribed in MPEP 2142.02(I), is a critical and required part of interpreting this limitation.

As such, the statement made in the previous in the Response to Arguments in the most recent Office Action that indicates "The argument on p. 13, is traversed where McDonough does not suggest determining an offset between a cursor position and a match bit within the n-dimensional entity" does not correctly characterize the previous argument, nor the "determining" element of the claimed invention. Specifically, neither McDonough nor this statement in the Office Action acknowledge "determining an offset between a cursor position and a match bit within the n-dimensional entity, wherein the match bit is based in part on the action, the direction, and the each bit in the data string". The "offset" in McDonough is not generated or "determined" as claimed. Rather, it simply "is" and serves as a basis (col. 11, lines 6-7). The indicated bases of this offset or shifting are the needs of the transmitter in order to enable the output of the transmitter's PN sequence generator to be "aligned with some particular time system" or "for purposes of PN timing acquisition and Multipath detection" (col. 2, lines 54-67 of McDonough). This "offset" is not taught or suggested as based on a "match bit based in part on the action, the direction, and the each bit in the data string" by the teachings of McDonough. This difference stands, regardless of the provided interpretation of a "cursor position".

With regards to this "cursor position", the Office action indicates that the Applicant's specification and claims indicate that a cursor position is broad and therefore includes a counter data

or counter value of McDonough as described at col. 9, lines 58 - Col. 10, line 3. However, the Applicant disagrees. The Applicant's specification makes it clear that a cursor position is a position within the n-dimensional entity. For example, page 7, lines 1-6, of the Applicant's specification indicates a cursor position "within n-dimensional entity 124...the cursor position may be input in a variety of configurations, including coordinate positions within the n-dimensional entity 124. For example, the cursor position may include an X,Y, Z coordinate position, where n is three." Such a "cursor position" thus incorporates a functional relationship between the elements of the entity, which influences the access and treatment of the entity. The broadest reasonable interpretation of the claimed "cursor position" would at least address, in some regard, the inherent functional relationships between the cursor position and the n-dimensional entity. The teachings of McDonough, however, do not.

McDonough however discloses that counter 408 may be referred to as a master counter which keeps a master time reference. See col. 9, lines 58 - Col. 10, line 3. Thus, while McDonough's counter refers to a time value, the Applicant's cursor position refers to a location of spatial position. Thus, the McDonough's counter of time data can not read on position data, again, even if such a term is given its broadest reasonable interpretation.

Further, the "offset" of McDonough and the claimed "offset" are on opposite sides of a step of "determining". In McDonough, the "offset data" is a basis for the generated "offset counter data". In the claimed invention, the "offset" is the product or result defined as "between a counter position and a match bit". As such, the "offset data" does not teach or suggest the "offset" as a result of "determining an offset between a cursor position and a match bit", since in McDonough, it is an initial basis of the generated "offset counter data".

The "offset counter data" of McDonough also does not teach or suggest the claimed "determining an offset between a cursor position and a match bit" at least so far as it does not involve or represent "a match bit based in part on the action, the direction, and the each bit in the data string". No influence of an "action", a "direction", nor "each bit in the data string" is included in the "generated" step of McDonough, which produces this "offset counter data" (col. 11, lines 6-7). Again, this offset counter data of McDonough is a product of a generation step, not a basis for

the generation step. For at least this reason, McDonough is respectfully submitted as not teaching or suggesting the invention as at least claimed in Claim 1.

The duty to give the claimed invention its broadest reasonable interpretation, consistent with the specification, is acknowledged herein, as is further prescribed in MPEP 2111. However, it is respectfully submitted that claimed "offset between a match bit within the n-dimensional entity, wherein the match bit is based in part on the action, the direction, and the each bit in the data string" is not met by the teachings of McDonough, including those cited, even when this broadest reasonable interpretation is applied.

V. Claim Rejections – 35 USC § 103

Claims 1-47 are rejected under 35 U.S.C. 103(as) as being unpatentable over McDonough (US 6,549,563), and further in view of Zdepski et al. (US 6,606,746).

In addition to the above arguments, the following issues with the most recent rejection under 35 USC §103 are noted.

With regards to Claims 1, 19, and 47, neither McDonough nor Zdepski teach or suggest "receiving, from a user, the data string, as plaintext". Column 13, lines 64-67 of McDonough was cited in the Office Action. However, "IS-95 or IS-2000" are the names of the standards in accordance with which the control data is selected. These standards are not "plaintext", much less a part of "receiving, from a user, the data string, as plaintext" as at least claimed in Claim 1. The system of McDonough is involved with communication aside from/prior to any form of user data, if one if any form of user data does happen to be included after step (508) (col. 10, lines 46-47). As such, McDonough does not teach this limitation, much less the "plaintext" as is further relied upon in the limitation of Claim 1. Column 6, lines 49-62 of Zdepski was also cited as teaching or at least suggesting this limitation. However, at best it is unclear how "user input or user interaction with the GUI" of Zdepski would be incorporated into the teachings of McDonough, since McDonough, for example, does not involve user-interaction with the data sequence generation relied upon in the previous Office Action. The modification statement on page 6, lines 8-13, does not indicate how McDonough would be modified to include a user interface. As such, it is respectfully submitted that either (A) McDonough in view of Zdepski does not teach or suggest this limitation or (B) with

regard to the user interface, the rejection under 35 U.S.C. § 103 is incomplete so far as is does not include "a proposed modification of the applied reference(s) necessary to arrive at the claimed invention" as prescribed by MPEP 706.02(j). For at least this reason, McDonough in combination with Zdepski neither teaches nor suggests all of the limitations of at least Claims 1, 19, and 44.

Neither McDonough nor Zdepski teach or suggest, "performing an action based in part on the read number of bits". In the Office Action, the "read number of bits" were equated to "the current state or offset at which a particular PN sequence resides" (page 4, line 6 of the Office Action). The "performing an action based on the read number of bits" was equated to the "purpose" of column 9, lines 33-39 (page 4, line 11 of the Office Action). Part of a process of generating a plurality of data sequences" in column 11, lines 21-27 was also cited (page 4, line 8 of the Office Action). However, a number of inconsistencies exist in such an interpretation and application of these teachings of McDonough.

First, the "purpose" of column 9 is not actively "performed" as required by the limitation "performing an action". Intent or a purpose does not inherently translate to a resultant execution or active implementation. For example, something can "serve a purpose" without performing action. Second, this "purpose" is not clearly associated with a read state of the data sequence of McDonough, and as such, is not "based in part on the read number of bits". In fact, is respectfully submitted that such an association would not be possible, since the "purpose" is listed in association with the generation of the bits, but "reading" occurs after the bits have been generated and have an associated state. It is respectfully submitted that a second action ("performing") based on a first action ("reading") is not executable before the first action ("reading") has been implemented, though this is what the cited grounds of the office action suggest (and would need to, in order to meet the limitation of Claim 1). It is further noted that "read" does not necessary occur in the context of McDonough (col. 4, lines 45-46, "be able to read"). Third, the "generating" cited in column 11 of McDonough also occurs prior to the bits being available to "read the current state". As such, this generation of column 11 also does not teach or suggest "performing an action based in part on the read number of bits". At least for the above reasons, it is respectfully submitted that the overall teachings of McDonough do not teach or suggest this limitation. It is further noted that

Zdepski was not relied upon for teaching this limitation, and as such, cannot, without changing the grounds of rejection, be relied upon as such.

Further, it is respectfully submitted that one of ordinary skill in the art would not logically combine the teachings of McDonough with Zdepski. For example, the "offsets" in the two teachings are unquestionably different. The offset of McDonough pertains to a **time** shifting between a particular and a nominal PN sequence (col. 4, lines 42-45). The offset in Zdepski pertains to a **positional** location in a display (col. 17, lines 28-35). Time shifting and indicating display locations are not analogous conceptually, nor are they necessarily similar even in terms of implementation. (And regardless, as discussed above neither teaches nor suggests the "offset" prescribed by of the limitation "determining an offset between a cursor position and a match bit within the n-dimensional entity, wherein the match bit is based in part on the action, the direction, and the each bit in the data string" of claim 1). In light of this difference between McDonough and Zdepski, it is respectfully submitted that one of ordinary skill in the art would not be able to combine these two teachings, much less have a rationale for combining these two teachings as relied upon in the most recently submitted Office Action. For at least this reason, it is respectfully requested that the rejection under 35 U.S.C. §103 be withdrawn.

Similar to above, it is respectfully submitted that the provided rationale for combining the two references of McDonough and Zdepski is improper. The motivation was listed as "because one or more byte offsets indicating locations of each of the one or more slices, preferably pointers to the slice start codes, in the compressed insert picture where this multiplexed stream can then be transmitted to one or more subscriber televisions" (page 6, 2nd paragraph of the Office Action). However, "slices" in Zdepski are contiguous blocks of pixels (col. 10, lines 66-67 of Zdepski). The teachings of McDonough do not include picture data, much less blocks of pixels. The encoded data in McDonough "generate spread spectrum signals by increasing the bandwidth of a baseband signal" (col. 1, lines 56-67). It is at best unclear how information pertaining to "pixel blocks" would be applicable to "increase the bandwidth of a baseband signal", as part of a resulting signal combining the teachings of Zdepski into those of McDonough. In light of the substantial difference between the two teachings and underlying concepts of McDonough and Zdepski, it is respectfully submitted that a person of ordinary skill in the art would not be drawn to make such a combination,

much less derive required utility from such a combination. For at least this reason, this rejection under 35 U.S.C. § 103 is also respectfully requested to be withdrawn.

So far as **Claims 2-18** depend from Claim 1, it is respectfully submitted that the above arguments are also applicable to these claims. For at least these reasons, these claims are submitted as allowable and withdrawal of the rejection(s) of these claims is also hereby requested.

So far as at least some of the limitations cited in the above discussion(s) are also represented in independent **Claims 19, 36, 44, and 47**, it is also respectfully submitted that these claims are not taught or suggested as a whole by the applied references of McDonough and Zdepski. For at least the reasons listed above, these claims and their dependents, such as Claims 20-35 and 45-46, are respectfully submitted as allowable over the prior art of record. Accordingly, withdrawal of the previous rejections under 35 U.S.C. § 103 is respectfully requested.

Finally, noting the broad interpretations of certain limitations herein, if the examiner has suggestions for providing language that would appropriately clarify these limitations, it is respectfully requested that any such suggestions be provided in response to this submission, in order to further advance the prosecution of this case.

CONCLUSION

It is respectfully submitted that each of the presently pending claims (Claims 1-47) is in condition for allowance and notification to that effect is requested. Examiner is invited to contact the Applicants' representative at the below-listed telephone number if it is believed that the prosecution of this application may be assisted thereby. Although only certain arguments regarding patentability are set forth herein, there may be other arguments and reasons why the claimed invention is patentable. Applicant reserves the right to raise these arguments in the future.

Dated: November 20, 2007

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